



Integrys North Shore Gas South Plant

Waukegan, Illinois

August 24, 2007

NORTH SHORE
GAS COMPANY
WAUKEGAN, ILLINOIS



MGP Background

- Total MGP Size: 2.04 acres
 - North Shore Gas: 1.64 acres
 - City of Waukegan: 0.35 acres
 - Waukegan Port District: 0.05 acres
- Years of MGP operation: 1897-1927 and 1935-1946
- Gas processes used:
 - Coal carbonization
 - Carbureted water gas

Investigation and Remediation Planning

- 1999: Site Investigation (SI) conducted by Barr Engineering
 - North Shore Gas property
 - 8 test trenches
 - 4 soil borings
- 2002-2003: Supplemental Site Investigations (SSI)
 - North Shore Gas property
 - 64 soil borings
 - 4 monitoring wells
- 2003-2004: Interim Remedial Action
 - North Shore Gas property
 - Removed approximately 19,200 tons of soil above the water table

Groundwater Investigation and DNAPL Delineation Activities

- 2003: Off-Site Investigations (OSI)
 - Waukegan Port District Property
 - 25 soil borings
 - 6 monitoring wells
 - 2 recovery wells
 - Akzo Nobel Property
 - 28 soil borings
 - Restricted to visual observations of soil below 10' bgs (no sampling)
- 2004: Supplemental Off-Site Investigation (SOSI)
 - Waukegan Port District property
 - 38 soil borings
 - 17 monitoring wells

Groundwater Investigation and DNAPL Delineation Activities

- 2005: DNAPL and Groundwater Investigation
 - North Shore Gas property
 - 62 soil borings
 - 42 monitoring wells
 - 4 recovery wells
 - Waukegan Port District property
 - 32 soil borings
 - 18 monitoring wells
 - 5 recovery wells
- 2005: Soil Gas Sampling
 - Waukegan Port District property
 - 4 soil gas samples collected at perimeter of Port District maintenance building

DNAPL Recovery Efforts

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DNAPL Recovery Efforts

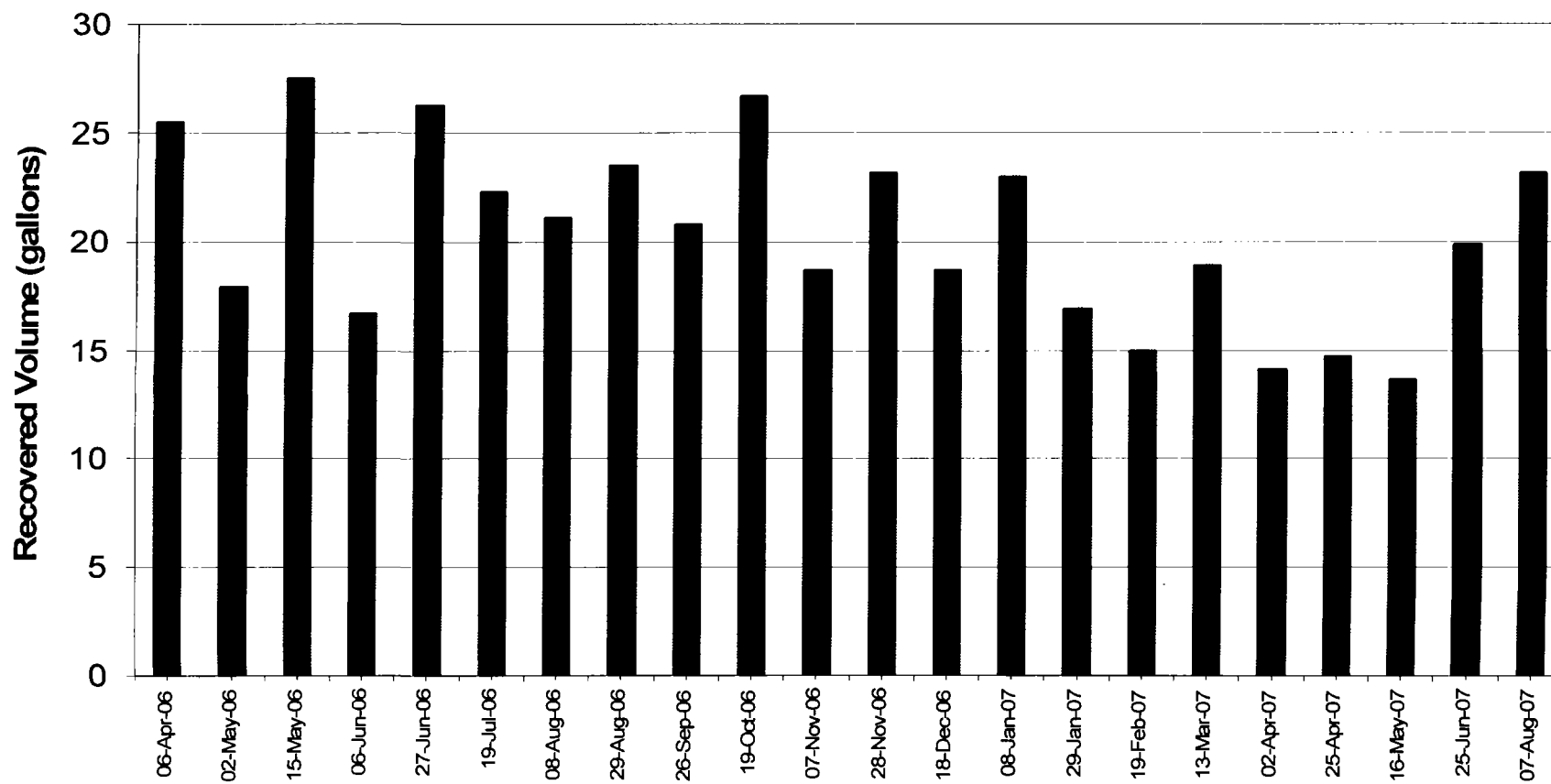
- April 2006 – Present
 - Three-week intervals April 2006-May 2007
 - Six-week intervals May 2007-present
- Recovered approximately 450 gallons of DNAPL
- DNAPL viscosity range
 - Visitor Parking Lot: 40 cSt (similar to vegetable oil)
 - North Shore Gas property: 870 cSt (similar to SAE 30 motor oil)

DNAPL Recovery Efforts

- Approximately 99% of DNAPL recovered to date came from Waukegan Port District property.
- Approximately 60% of DNAPL recovered to date came from recovery wells RW7 and RW10.

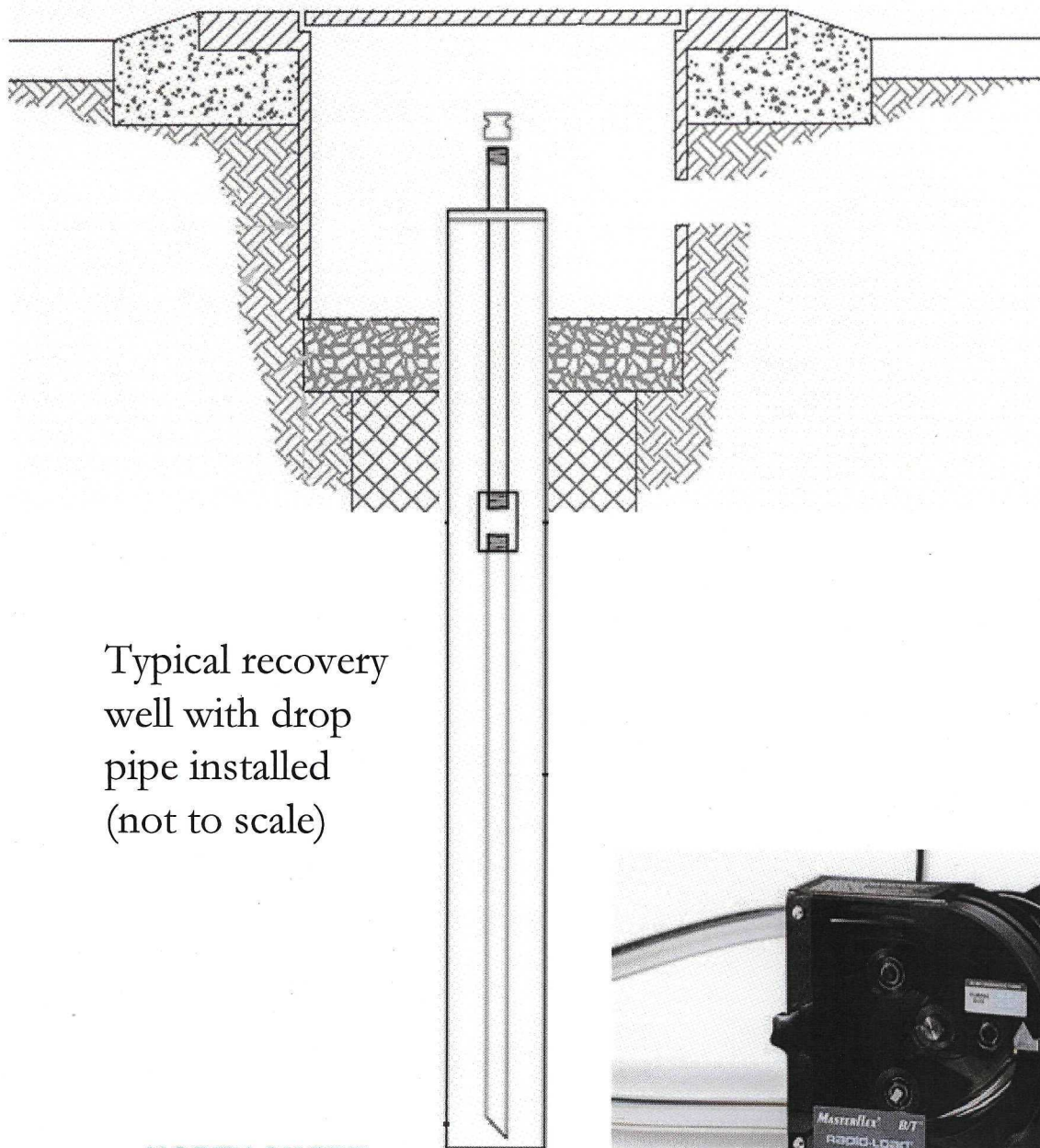
DNAPL Recovery Efforts

DNAPL Pumping Events



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Typical recovery
well with drop
pipe installed
(not to scale)

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Large peristaltic pump

DNAPL collected in a
drum and sent to SET
Houston for recycling



**Burns &
McDonnell**
SINCE 1898





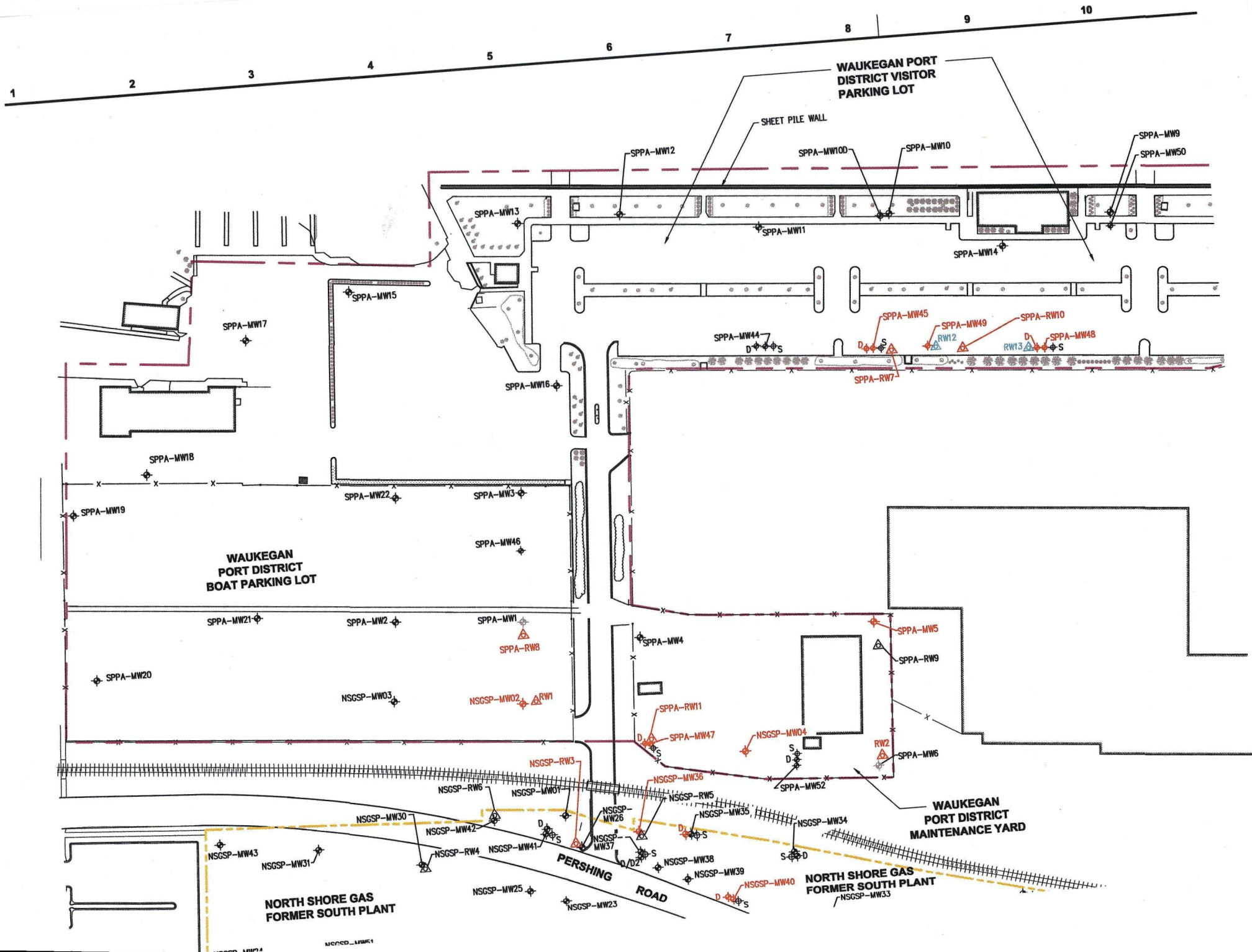
Proposed Additional Recovery Wells

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Proposed Additional Recovery Wells

- Proposed wells will be installed near existing 2-inch diameter monitoring wells MW48 and MW49 that have historically exhibited similar thicknesses of DNAPL to RW7 and RW10.



**WAUKEGAN PORT
DISTRICT VISITOR
PARKING LOT**

SHEET PILE WALL

